ABSTRACT OF THE DISCLOSURE

An integrated electro-optic circuit includes a semiconductor substrate on which a photosensor may be imprinted that detects a predetermined optical signal wavelength. The electro-optic integrated circuit further includes an electronic integrated circuit, including the photosensor, imprinted on the semiconductor substrate. The integrated electro-optic circuit further includes a buffer layer laid on the electronic integrated circuit and a waveguide layer, including a waveguide, positioned on the buffer layer. The waveguide layer is formed of phosphate glass doped with a signal amplifying material. A cladding layer is laid on the waveguide layer. In the electro-optic circuit, the index of refraction of the waveguide layer is greater than an index of refraction of the buffer layer and greater than an index of refraction of the cladding layer.